International Road Notes
April 1998

INTERNATIONAL SCANNING TEAM STUDIES ORGANIZATION AND MANAGEMENT ISSUES

Search for Innovation

Transportation agencies throughout the world, including the United States, are feeling the pressures of privatization as part of government restructuring and downsizing initiatives. A number of countries have actively introduced private sector business initiatives to public sector functions. As a result, road agencies in these countries have reinvented themselves by adopting new management practices, including *competing* for service delivery, *privatizing* some functions, and *streamlining* the processes by which they acquire and deliver services—usually with a reduction in government work force.

To get a firsthand look at how a decade of government reform has affected some of these road agencies, the Transportation Organization and Management (scanning) Team* visited New Zealand, Australia, Sweden, and the United Kingdom in fall 1997. Road agencies in these countries share the experience of contending with evolving programs and adapting innovative responses to the mandate for more efficient operation. And they have done so with varying degrees of success.

Team members represented the American Association of State Highway and Transportation Officials (AASHTO), the Transportation Research Board (TRB), the American Road and Transportation Builders Association (ARTBA), the American Consulting Engineers Council (ACEC), the Federal Highway Administration (FHWA), and academia (see participant roster, page 4). In each nation, participants met with transportation officials in the public and private sectors and with other transportation-related groups to:

- Review effects of the changing relationship(s) of government and the private sector to deliver and maintain transportation facilities.
- Identify innovations in contracting and funding affecting transportation department operations and maintenance.
- Share U.S. experiences.

Scanning team members were specifically interested in seeing the results of their various approaches to contracting, outsourcing, and financing operations. According to Maryland DOT's Clyde Pyers, "It's important to point out that each of these countries has a government system different than the U.S. system and that what they are doing is not necessarily transferable to our organizations. But an experience like this certainly gives you depth by enabling you to look at options that may face you in your own U.S. agency, and how a particular country produced results. It also raised some concerns."

The search for ways to introduce the desired transportation services has resulted in a number of crucial shifts in thinking. These include outcome-based performance measures and investments, competition for delivery of services, and use of private funding for road construction.

Competition Results in Efficiency and Cost-Effectiveness

Major management changes are occurring in many nations. The pressures seem similar in virtually all cases. The primary pressure is the need to provide for travel growth with seemingly insufficient funding. The search for ways to introduce the desired transportation services has resulted in a number of crucial shifts in thinking. These include outcome-based performance measures and investments, competition for delivery of services, and use of private funding for road construction.

Although the extent and process of transportation reform varied among the four nations visited, each reorganization was in response to a broad, across-the-board government mandate or some degree of financial crisis. With a keen eye on the bottom line, each country has moved toward full

* *International Scanning Team visits are jointly sponsored by the FHWA, AASHTO, and TRB/NCHRP through NCHRP Project 20-36, Highway Research and Technology—International Information Sharing. The purpose of Scanning Team visits is to find innovations and practices abroad that could benefit the U.S. transportation system and to share U.S. experiences with colleagues in other countries.*

U.S. Department of Transportation
Federal Highway Administration

New Zealand

- Area similar to California, 4.5 million population
- Study commission recommendation to move ownership/ operation of roadways to private sector
- Department of Public Works personnel reduced from 5,000 to 60 (set policy and write performance-based contracts)
- All maintenance contracted out
- Most decisions determined by benefit-cost calculations

accountability. They allocate scarce resources through benefit-cost ratios and performance measures (for measuring results more than allocations). The result is "light- handed" and outcome-oriented regulation of highway design, construction, and maintenance.

For New Zealand, the response was to move away from total government ownership and operation to total privatization. In 1984, the Ministry of Transportation in the Department of Public Works numbered 5,000 employees; today, 60 employees primarily set policy and write performance-based contracts to design, build, and maintain the country's roads. Team member Larry Goode, North Carolina DOT, noted the success of the initiative by remarking that he'd never seen a better maintained highway system.

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Several nations have improved in-house operations by transforming programs into profit centers or publicly owned enterprises that compete directly with the private sector, including a surrogate charge for profit and taxes to equalize the competition. In 1996, the Swedish National Road Agency converted three operations into three independent profit centers—construction and maintenance, consulting, and ferry operations. A 15 percent profit is included in each bid. All profit centers are audited externally. The SNRA's three regional maintenance/construction facilities also compete for public or private contracts against each other. The SNRA estimates that only 15 percent of invoicing is internal. The agency calculates that organizational changes and competition have improved productivity by 20 to 25 percent.

In Australia, the Road and Traffic Agency of New South Wales introduced selective competition into organizational procedures, which allows its in-house consumers to use services within the agency or to contract for services outside the agency.

Internal units such as environmental analysis or planning are required to propose for work even within the agency. Almost all construction is contracted. Road agencies believe that savings are substantial and they are getting good work for their investment.

All countries visited routinely outsource virtually all construction, and now, maintenance work. Maintenance contract duration is usually 3 to 5 years. The Road and Traffic Authority of New South Wales is experimenting with bidding out maintenance work, requiring its own maintenance forces to compete with outside bidders. Contract periods have risen from 3 to 10 years, which allows contractors to make long-term financial arrangements. Melbourne-area maintenance forces compete for maintenance jobs; they win about one-third of the contracts on which they bid. In Australia, maintenance costs have dropped dramatically.

Contracting Options Specify Performance and Transfer Risk

In response to redefining the role of government, and the demand to improve cost-efficiency, most transportation agencies have drawn a distinction between policy formation and the delivery of services. They also use performance-based contracts. In contrast, the U.S. highway community does not draw a clear distinction between policy formation and the delivery of services. U.S. highway agencies do contract for design and construction services, but they use specification-based contracts to control the process from bid through acceptance. All countries visited are moving toward service delivery entities that behave more like the private sector. In New Zealand and the United Kingdom, for example, the government sets policy but the private

Australia

- Area similar to the Continental U.S., 18 million population
- Small Federal role in highways, strong State role
- National role limited to National Highway System
- Like U.S., States construct and maintain highways
- Majority of maintenance contracted out
- Number of maintenance stations reduced 85 percent
- Selected internal units designated as profit centers compete for internal and external contracts

Sweden

- Area larger than California, 8.5 million population
- 4-year transition to convert selected operating units to profit centers
- Bid out 70 percent of maintenance work (majority won by in-house profit centers)
- Maintenance efforts targeted to support economic activities
- Strong safety, environmental quality focus

sector achieves the policy and assumes the risk of achieving it. For example, a contractor in New Zealand will be paid to ensure a predetermined quality of road surface—thus ensuring the road's performance—for a specified number of years. Contractors and governments in the United Kingdom advocate performance specifications as a way to improve efficiency. Another attraction of performance-based contracts is that they enable agencies to oversee areas of a road system considered important, while reducing the number of employees required for oversight. The United Kingdom and the Australian states of New South Wales and Victoria are, however, more cautious about transferring design activities to the private sector, mainly to ensure consistent value and quality standards. Management is the one function that all road agencies visited retain in-house.

Performance-based contracting has given rise to a variety of turnkey programs. For example, the United Kingdom and Australia are selectively using DBFO (design-build-finance-operate), BOT (build-operate-transfer), BOOT (build-own-operate-transfer), and DCM (design-construct-maintain). The United Kingdom has seen significant cost savings and accelerated completion with its first eight DBFO contracts.

Road agencies are also using benefit-cost analysis to prioritize projects and allocate resources more objectively. The United Kingdom, New Zealand, and Sweden include costs related to noise, environmental degradation, aesthetics, safety, and delay.

Reform Takes Its Toll

Outsourcing services and downsizing the in-house work force have been the overwhelming responses to the mandate for efficiency. Many team members, however, expressed concern about the long-term effect on the agencies and their function, the institutional memory, and the agencies' core competencies.

Historically, government has been seen as the trainer and developer of core transportation skills. This role is significantly altered where service delivery is privately provided.

In New Zealand, the private sector has assumed training and research functions. One contractor, who met with team members, noted that the shift to private sector contracting had increased opportunities for his company, but also forced him to employ more technical staff and make a larger financial and technical investment. He also commented that new contracting opportunities have introduced a greater emphasis on quality and improved innovation.

Maryland's Clyde Pyers observes, "While privatization has done much for efficiencies, it has produced some undesirable effects. For example, research activities have seriously decreased, and the technical competence slowly disappearing from agencies is not being replaced." Gene McCormick, Parsons Brinkerhoff, agrees. "Only one country we visited has any significant, ongoing research program. While this saves money in the short term, how do you make technology work long term?"

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Road agency reform has evolved as part of an overall government mandate to increase efficiency and accountability, but these same road agencies must continue to compete with other government agencies during each budget cycle. In all four countries visited, gas taxes and user fees go into the general fund to support across-the-board government programs. The Australia transportation funding level is intended to reflect road-related revenues, but again, these fees become part of general government revenues, so there is no direct link. Unlike the U.S., which enjoys a dedicated funding source supported by gasoline taxes, the lack of any specific or new funding mechanism puts agencies at a disadvantage

United Kingdom

- Area comparable to Oregon, 59 million population
- New Labor Government conducting nationwide transportation policy review
- New road policies expected to involve city, county, and regional governments more than central government
- Use numerous design/build/maintain contracting alternatives with private sector
- Shadow tolls sometimes are used to finance DBFO contracts (shadow tolls are payments by government to road authorities based on level of use)

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for long-term strategic planning or stable capital investment decision making.

Team members also noted that governments were not sufficiently acknowledging the crucial link between a strong transportation infrastructure and economic growth. Australia, however, considers economic growth instrumental and invested heavily in its highway system through the 1980s. Sweden explicitly considers transportation investment an important means to equalize regional development. The United Kingdom road system has recently undergone extensive study, and the new Labor Government has instituted another major review. But the awareness of transportation's economic importance is demonstrated by Wales, which doubled its transportation investment and was able to attract 20 percent of the United Kingdom's internal investment, even though Wales represents only 6 percent of the nation's population.

Experience, Learn, Change

Countries visited by the scanning team have undergone considerable change in the past decade. Although these nations represent transportation agencies as works in progress, lessons may be learned and conclusions drawn that may be of use to some U.S. State DOTs, which face their own, different pressures to operate more efficiently. Observes Gene Ofstead, Minnesota DOT, "Those of us with transportation management responsibilities are well-advised to learn from the leaders in these initiatives, and further, to be bold in adapting and adopting the key principles. Among these is the need to embrace competition for the delivery of *all* services to achieve the innovation and best thinking of those on the front line who deliver our services. At the same time, we must recognize that this creates a need to introduce many new management practices, including much more effort to truly understand and respond to customer needs, attention to measurement and goal setting, and a need to develop and use many internal management practices that we have not previously used."

The full report of the Transportation Organization and Management Team will be available in late summer 1998.

Please direct your questions, comments, or suggestions by email to international@fhwa.dot.gov, or call 202-366-2155.

For more information on the International Technology Scanning Program, visit the web site at www.international.fhwa.dot.gov.

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